



US007087029B2

(12) **United States Patent**
Friedland

(10) **Patent No.:** **US 7,087,029 B2**
(45) **Date of Patent:** **Aug. 8, 2006**

(54) **MASSAGER**

(76) Inventor: **Frank Friedland**, 19090 Two River
La., Boca Raton, FL (US) 33498

(*) Notice: Subject to any disclaimer, the term of this
patent is extended or adjusted under 35
U.S.C. 154(b) by 0 days.

(21) Appl. No.: **10/678,970**

(22) Filed: **Oct. 2, 2003**

(65) **Prior Publication Data**

US 2005/0075589 A1 Apr. 7, 2005

(51) **Int. Cl.**
A61H 1/00 (2006.01)

(52) **U.S. Cl.** **601/72; 601/80; 128/878;**
128/879

(58) **Field of Classification Search** 601/46,
601/48, 72-74, 80; 128/878-880; 602/20-23
See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

4,091,805 A * 5/1978 Clark 601/80

4,106,500 A * 8/1978 Burchart 601/72
5,016,617 A * 5/1991 Tarlow et al. 601/117
5,113,849 A * 5/1992 Kuiken et al. 601/40
6,656,139 B1 * 12/2003 Zvezdaryk 601/46

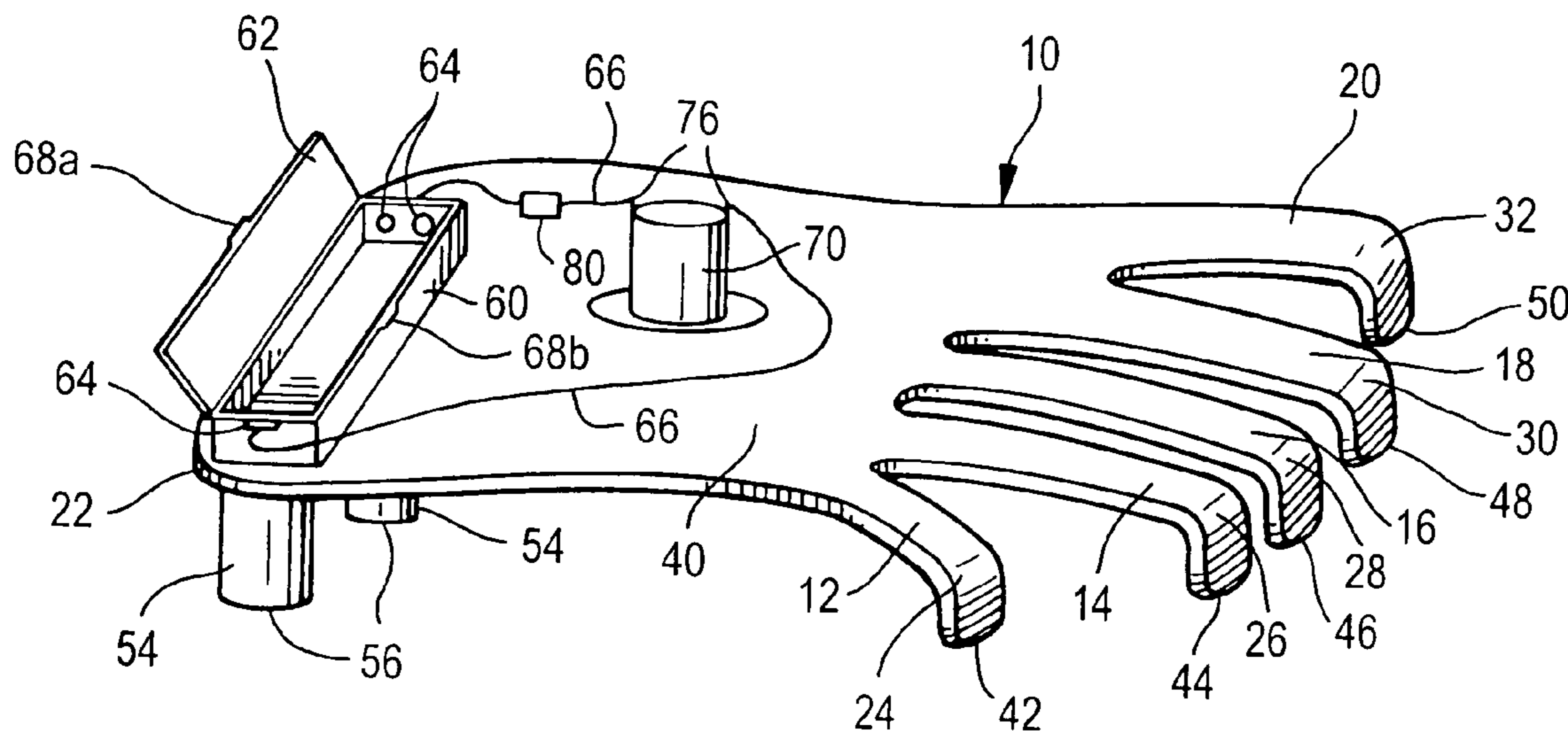
* cited by examiner

Primary Examiner—Michael A. Brown
(74) *Attorney, Agent, or Firm*—Marten Fleit; Paul D.
Bianco; Fleit Kain Gibbons Gutman Bongini & Bianco

(57) **ABSTRACT**

A massage device is composed of an elongated main body in the form of a sheet of flexible plastic material. The main body is configured with a plurality of flexible elongated strips extending from one end of the elongated body in cantilever fashion and juxtaposed spaced apart at their free ends to give the appearance of a hand with fingers splayed. The elongated strips define substantial contact areas, and an additional substantial contact area is defined at the other end of the main body. A vibration motor is fixed to the main body, which when operated imparts vibrations to the substantial contact areas via the main body to enable the device to perform a massage that simulates a hand massage.

11 Claims, 6 Drawing Sheets



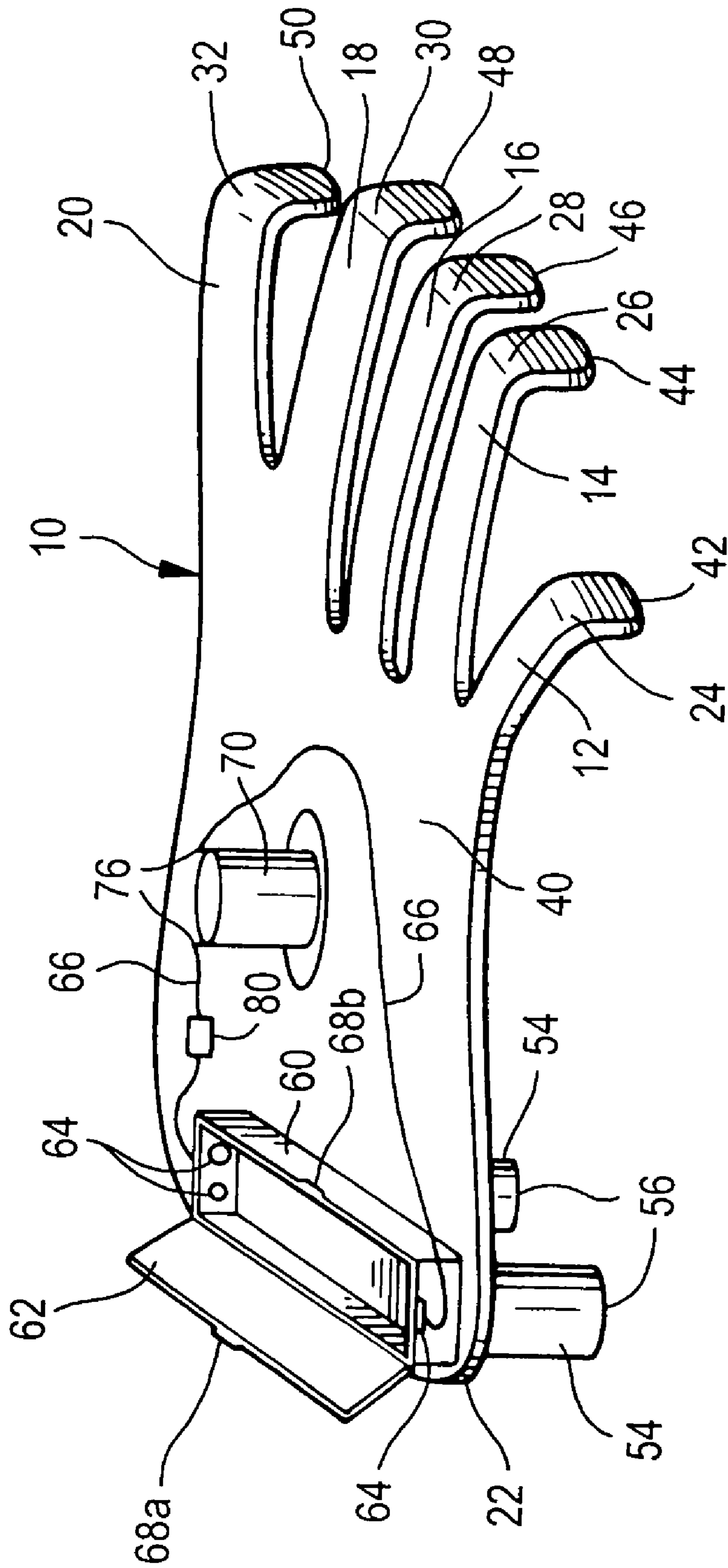


FIG. 1

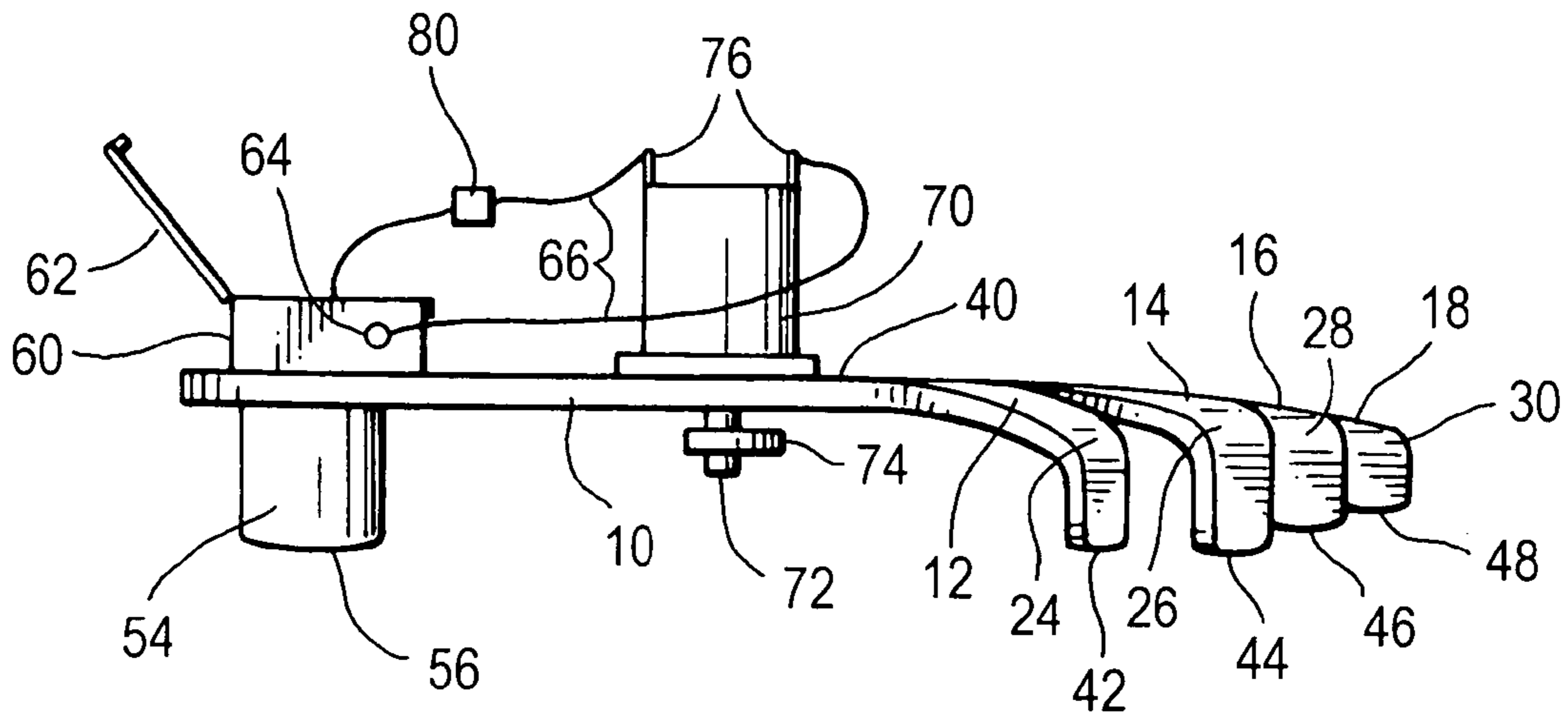


FIG. 2

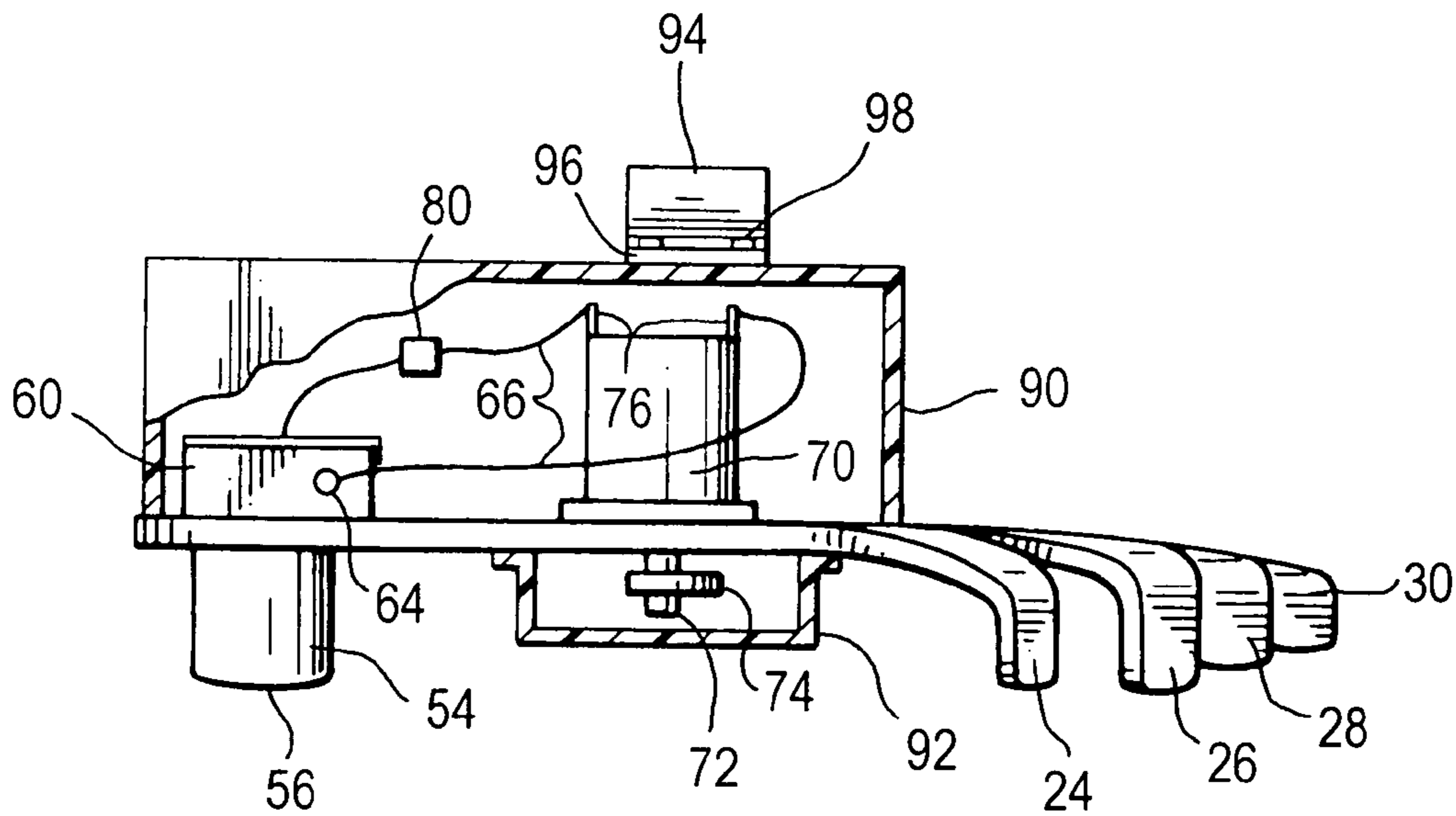


FIG. 3

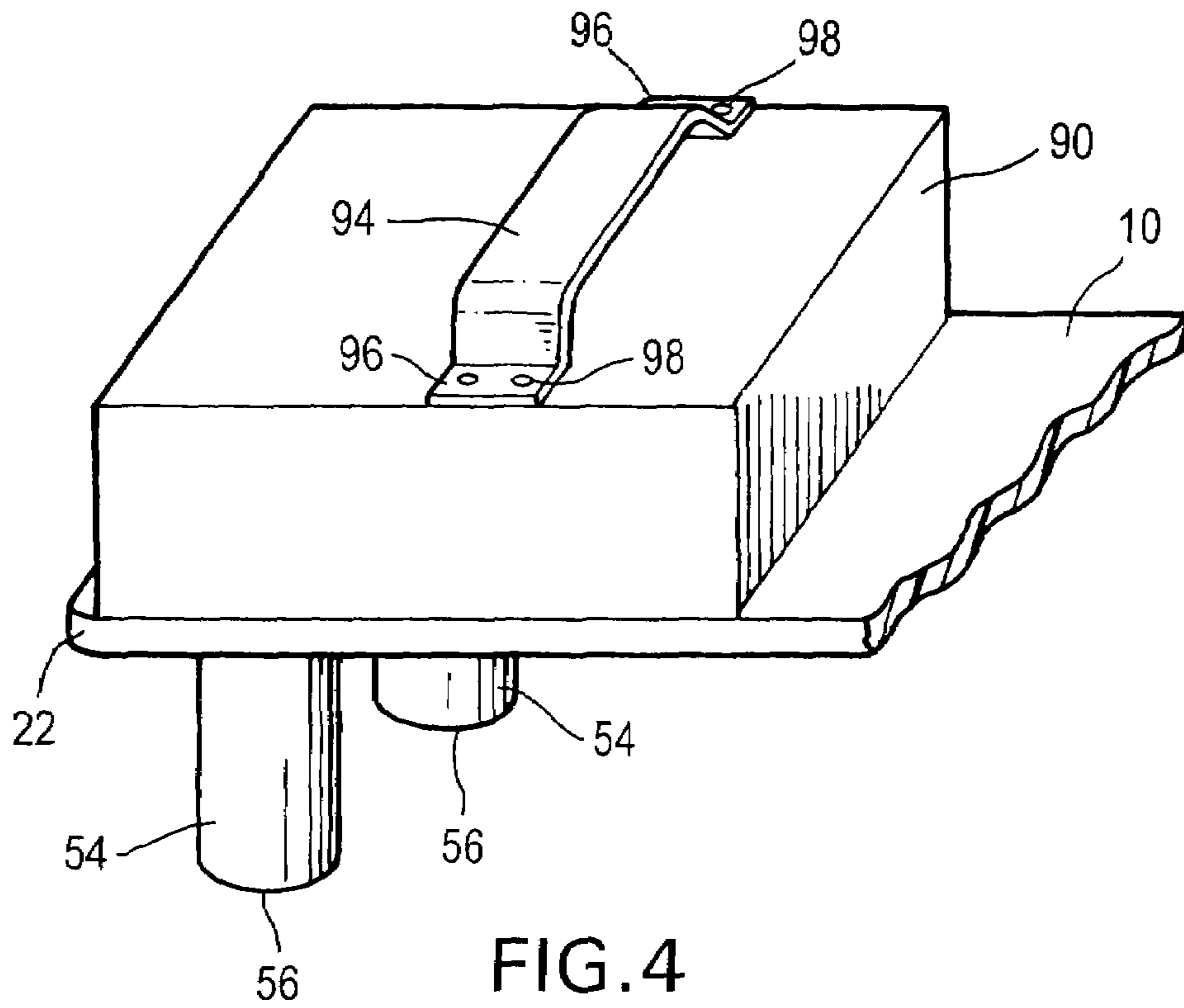


FIG. 4

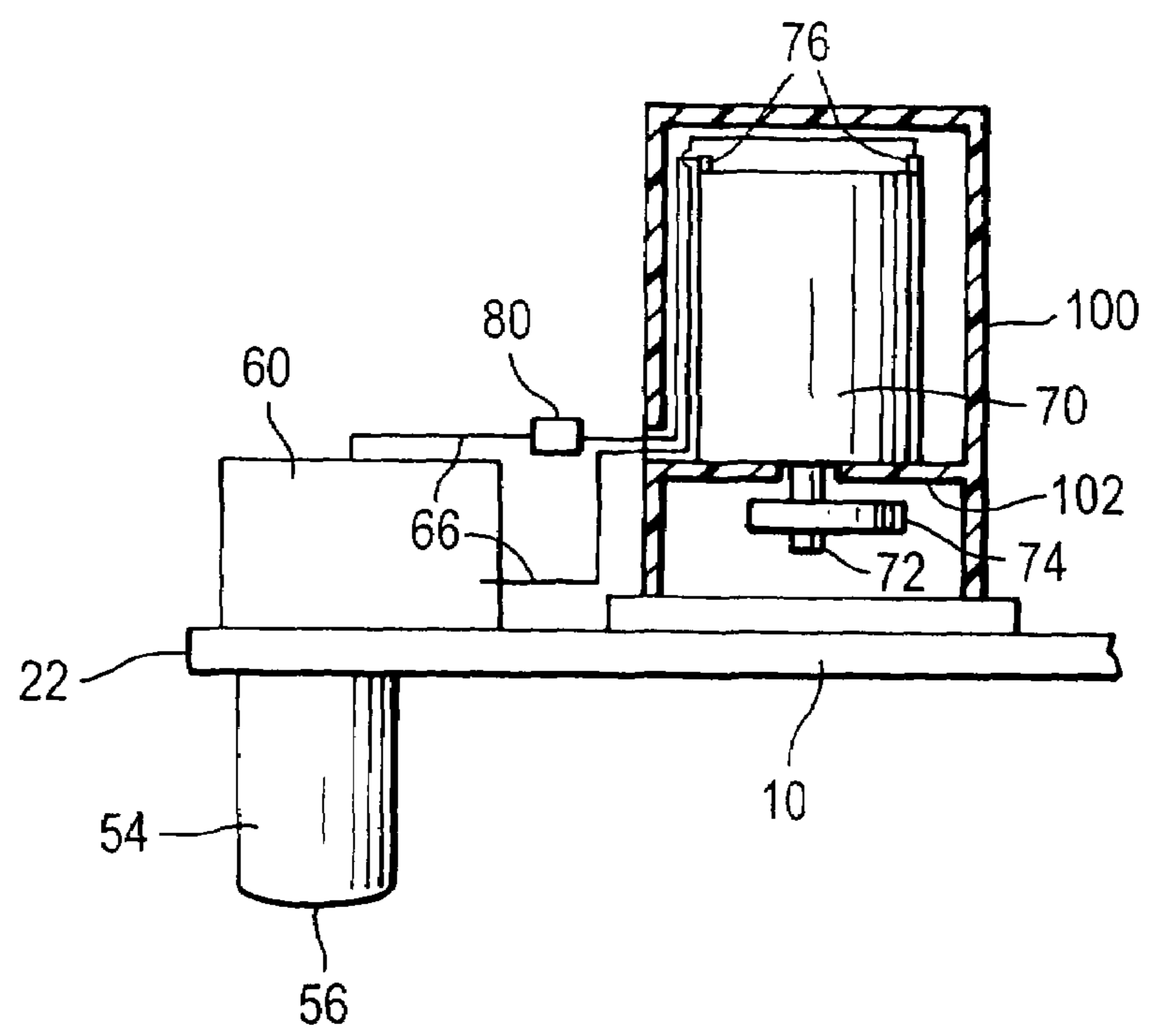


FIG. 5

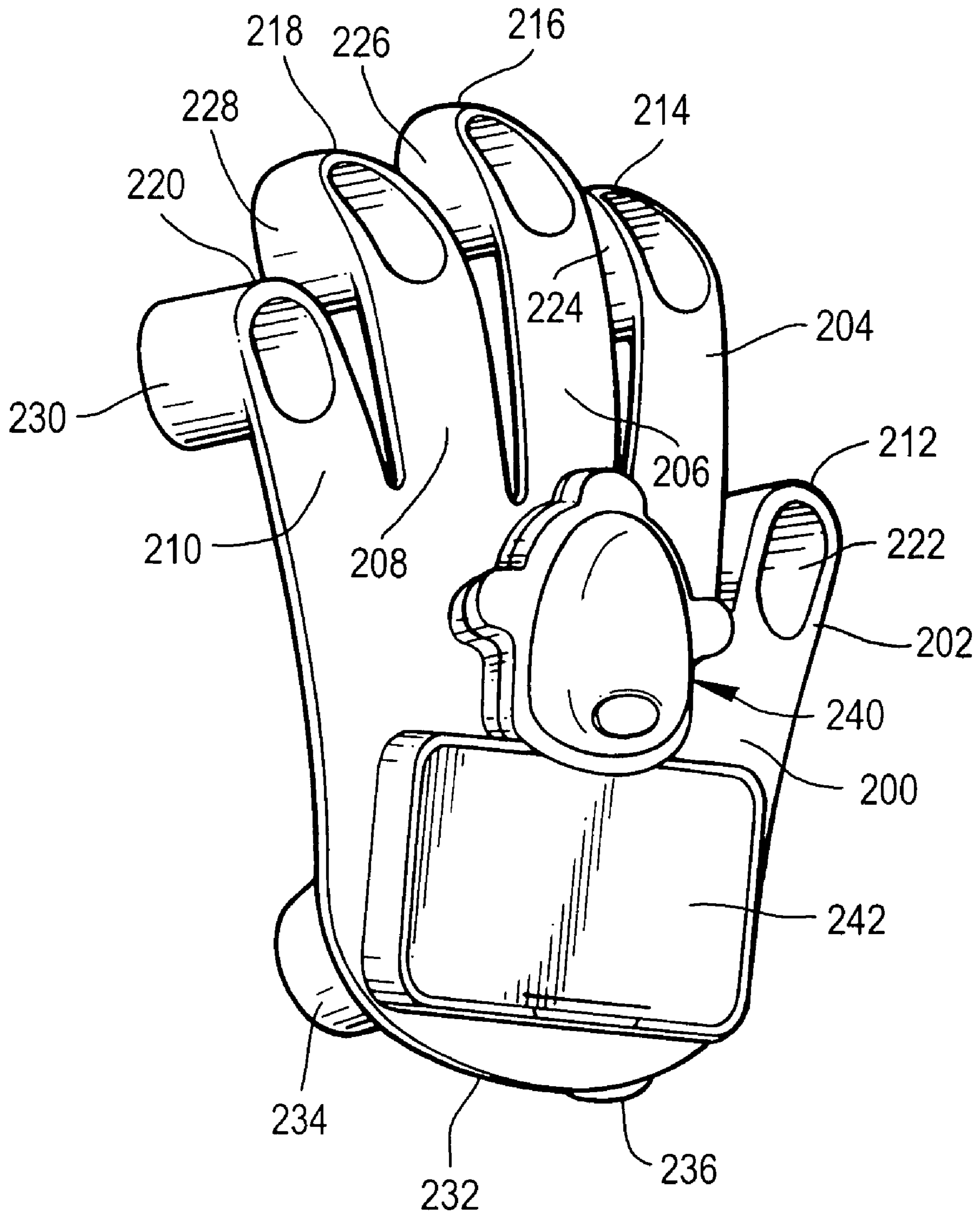


FIG. 6

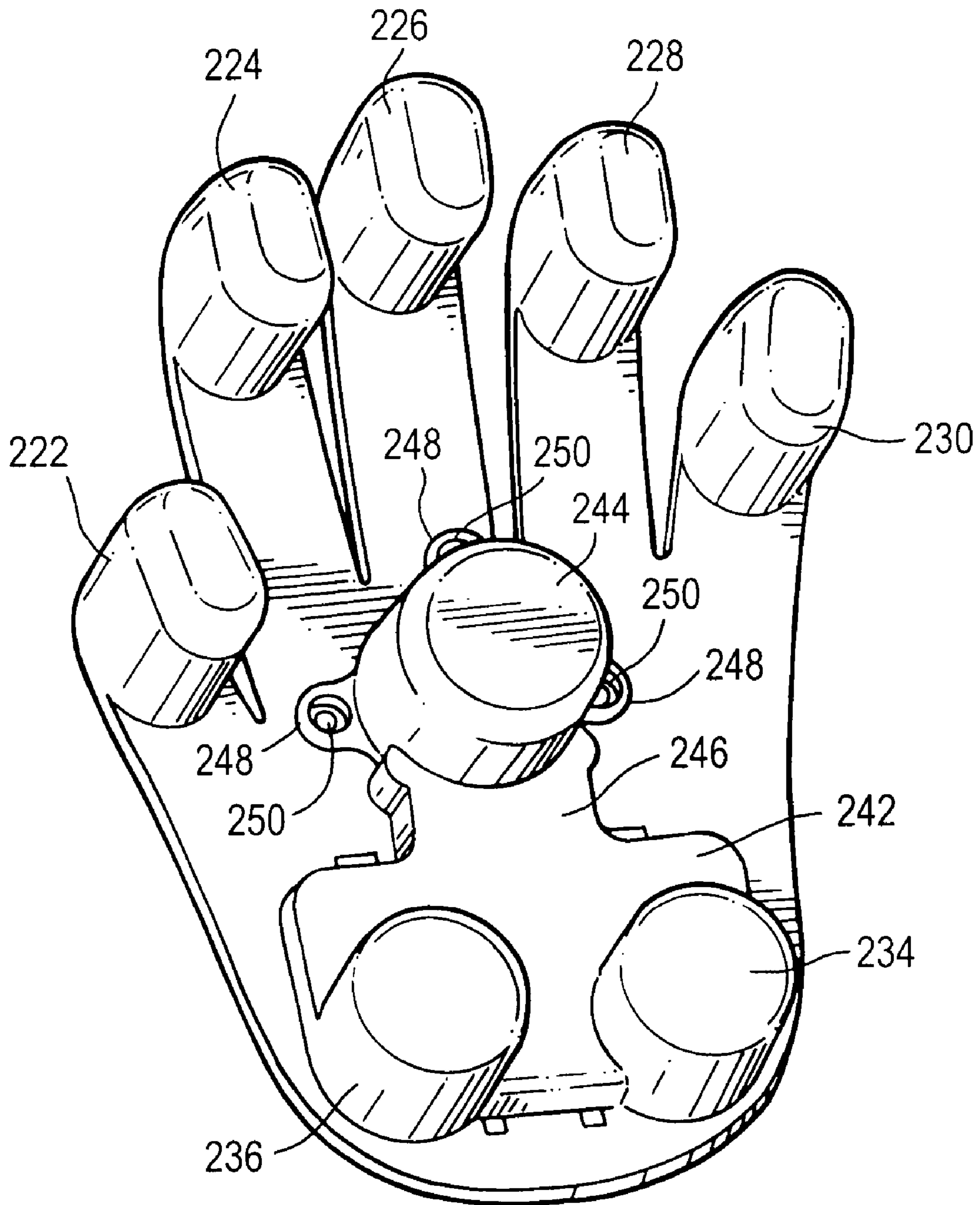


FIG. 7

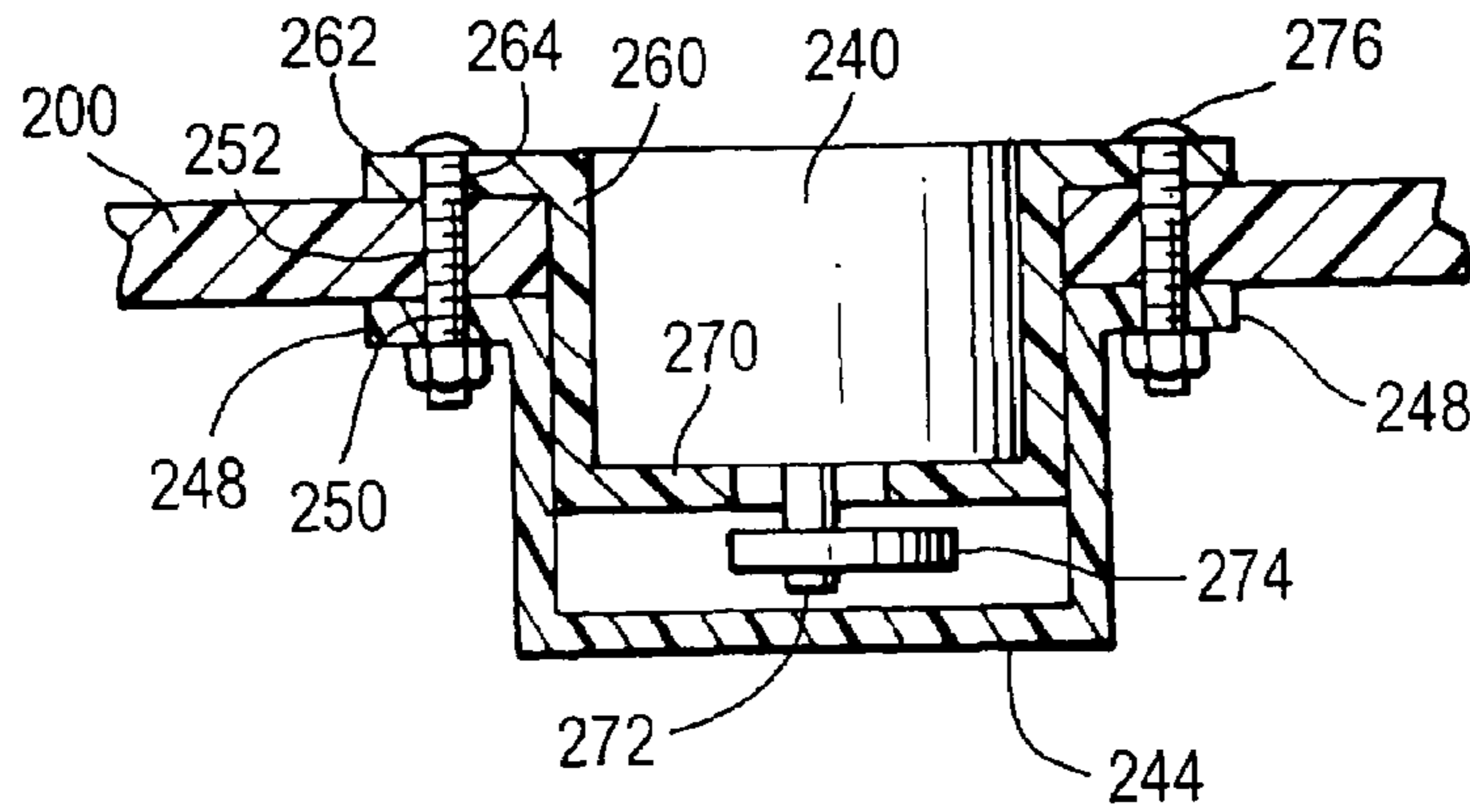


FIG. 8

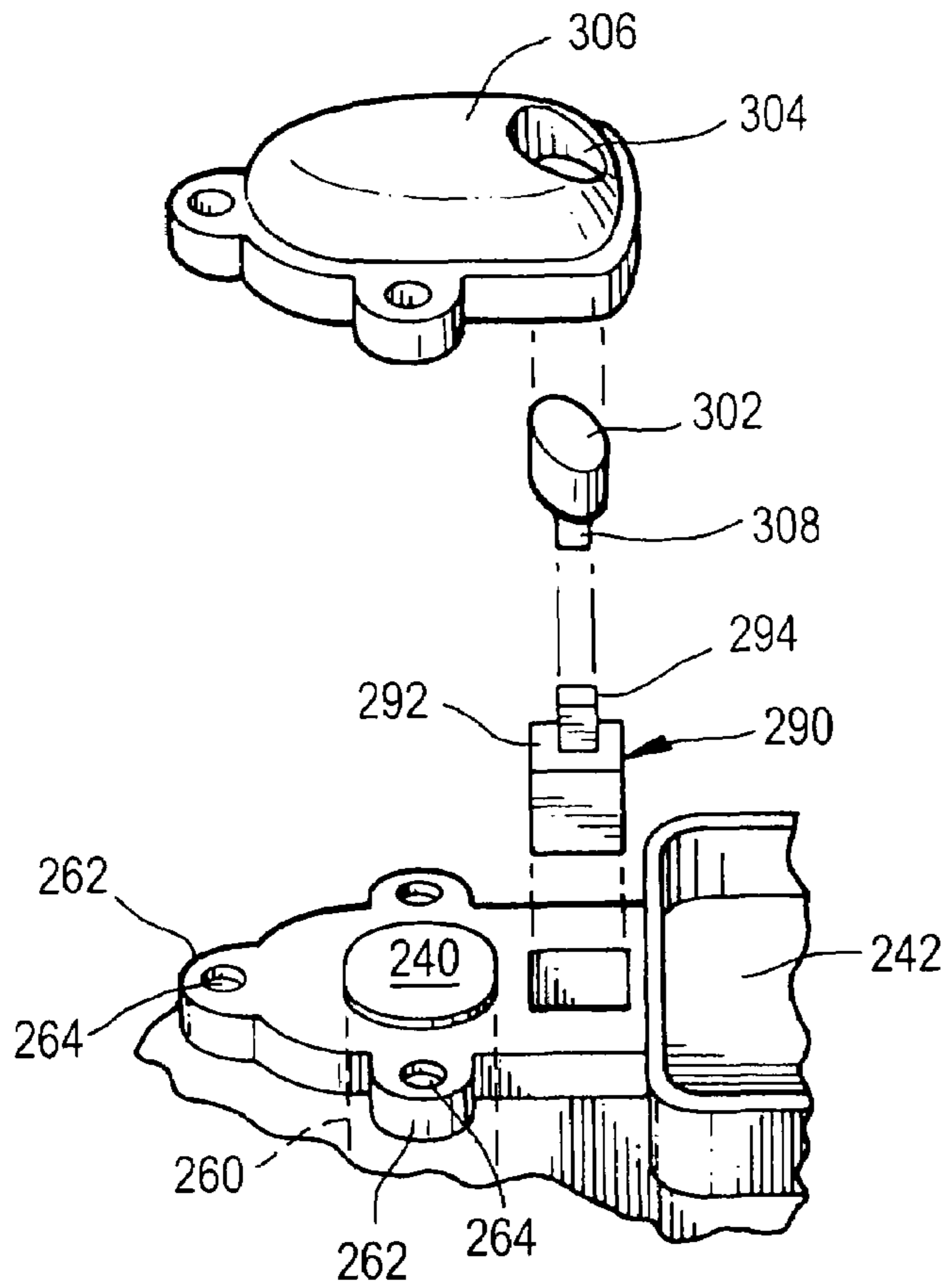


FIG. 9

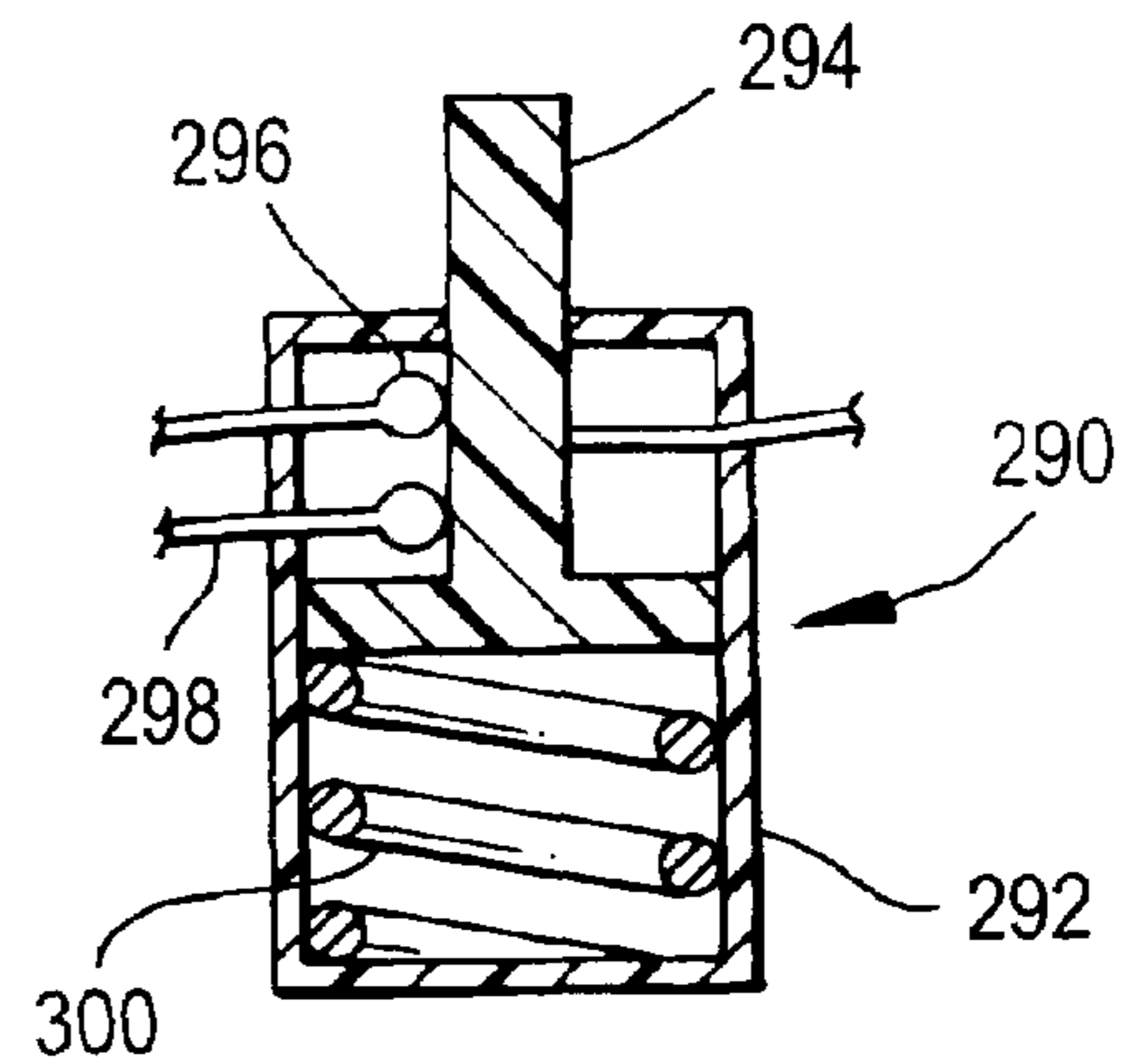


FIG. 10

1 MASSAGER

BACKGROUND OF THE INVENTION

1. Field of the Invention

The invention relates to a novel massager and more particular to a battery operated novel massager to simulate a hand massage.

2. Prior Art

Massaging the human body can be a valuable form of therapeutic relief. A professional is often employed to give a hand massage because of that person's knowledge of the muscles of the body and that person's ability to apply controlled pressure for some determined amount of time. It would be very desirable for a lay person, to have available an instrument, which, when used properly could achieve much of the same psychic and muscle tension relaxing results as a hand massage as given by a professional.

Electrically operated massagers, are generally known and available, but no known massagers exists for the purpose of giving a hand massage that simulates that given by a professional.

SUMMARY OF THE INVENTION

The present invention provides a novel massager that enables one to give himself/herself a massage that simulates a hand massage as given by a professional.

The foregoing advantage is achieved by the present invention by the provision of an instrument which is comprised of a main thin, flexible sheet of material, such as, polycarbonate, that has been molded to create a fanciful configuration of a hand with the fingers splayed, and the tips of the fingers serving to impart vibrations via the contact transfer areas. The rear area of the device, that is the portion corresponding to the heel of the hand, is also provided with contacting message areas. The tips are either bent ends or receptacles, so the instrument can be easily held in a hand and yet, the contact areas provided to effect massage are substantial. The device or instrument is battery operated and driven by a vibration motor. The bent ends or receptacles provide substantial contact surfaces from which the vibrations can be imparted to the body undergoing massage. In addition, in a preferred embodiment, a pair of receptacles or cans is molded at the rear of the sheet. The sheet is fancifully configured as a hand, and the transfer of the vibrations takes place at the equivalent of the fingertips, the thumb tip and the rear or heel of the palm of the hand.

More particularly, the present invention concerns a massage device comprising a main body in sheet form composed of a flexible plastic material and fancifully configured in the shape of a hand with fingers splayed by elongated portions extending from one end thereof, at least some of the elongated portions of the main sheet that project from one end thereof serving as fingers defining substantial contact areas for massage, and a vibration motor fixed to the main sheet for producing vibrations in the main sheet that are transmitted to the substantial contact areas for effecting a massage when the vibration motor is activated and the substantial contact areas are contacted with a person to be massaged.

The massage device according to the above may be configured such that the ends of the portions of the main body serving as fingers are bent downwardly at their ends and the substantial contact areas are defined at the tips of the bent downward ends. Also, the portions of the main body serving as fingers can have receptacles formed at their ends opening upwardly to receive the tips of fingers of a person holding

2

the massage device. Still further, the portions of the main body serving as fingers can be curved downwardly.

The massage device according to the above can have the vibration motor is fixed to the top of the main body. Alternatively, the vibration motor can be fixed to the bottom of the main body. Also, the massage device can have a battery box mounted on the rear portion of the main body. In such an arrangement, leads connect the battery box and the vibration motor, and a switch is interposed in one of the leads to control the operation of the vibration motor. The massage device can have at least one substantial contact area defined at the rear end of the main body serving as a heel of the fanciful hand.

Summarizing, the massage device according to the invention comprises an elongated main body in the form of a sheet of flexible plastic material, the main body configured with a plurality of elongated strips extending from one end of the elongated body in cantilever fashion and juxtaposed spaced apart at their free ends to give the appearance of a hand with fingers splayed, the elongated strips defining substantial contact areas, an additional substantial contact area defined at the other end of the main body, and a vibration motor fixed to the main body, which when operated imparts vibrations to the substantial contact areas via the main body to enable the device to perform a massage that simulates a hand massage.

Other advantages and structural features of the invention will become more readily apparent from the following detailed description of the invention with reference to preferred embodiments when taken together with the drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

A more complete understanding of the present invention, and the attendant advantages and features thereof, will now be explained in the following detailed description of preferred embodiments when taken in conjunction with the accompanying drawings wherein:

FIG. 1 is a top schematic view of a simple model of the novel massager of the present invention;

FIG. 2 is a side schematic view of the novel massager of the present invention as shown in FIG. 1;

FIG. 3 is a side schematic view of the novel massager of the present invention as shown in FIG. 1 illustrating covers for the vibration motor;

FIG. 4 is a partial schematic representation of the rear portion of the novel massager of the present invention illustrating a way to maintain the massager firmly on a hand;

FIG. 5 is a partial side schematic view of the novel massager of the present invention illustrating a top mounting for the vibration motor;

FIG. 6 is a top schematic view of a preferred embodiment of the novel massager of the present invention;

FIG. 7 is a bottom view of the preferred embodiment shown in FIG. 6;

FIG. 8 is a detail in side elevations showing the vibration motor mount;

FIG. 9 is a detail in side elevation showing in an exploded view the switch mounting for controlling the vibration motor; and

FIG. 10 is a detail showing the internal operation of the switch.

DETAILED DESCRIPTION OF PREFERRED EMBODIMENTS OF THE INVENTION

Referring now to the drawings, FIGS. 1 and 2 illustrate a first embodiment of the invention. The novel massager

consists of a relatively thin sheet **10**, of a flexible plastic material, such as polycarbonate, that has been molded in the form of a fanciful configuration of a hand, having a heel portion **22** at one end and splayed thumb and fingers **12–20** at the other end representative of the digits of a hand, such as, a thumb (**12**) and four fingers (**14–20**). The digits or elongations (elongated plates) constituting the fingers **14–20** and the thumb **12** are flexible and cantilever out from the main portion **40** of the sheet **10** terminating in free ends and are downwardly curved at their extremities, terminating in bent portions **24–32**, which are bent downwardly at a generally 90 degree angle with respect to the remainder of the elongations or digits. The extreme tips **42–50** of the bent portions **26–32** present flat substantial contact massage areas approximately from about 0.4 square centimeters to about 1 square centimeter, and even slightly larger depending on the thickness of the sheet **10**, which is from about 0.2 cm to about 0.5 cm thick, but may be slightly thinner or thicker.

At the rear or heel portion **22** of sheet **10**, a pair of spaced skirts **54** depend from the under surface of sheet **10**, generally spaced transversely. The lower free ends **56** of skirts **54** provide flat substantial contact massage surfaces and have the same conformation as the free ends or tips **42–50**, and the same areas. On the top surface of the sheet **10** at the rear **22** is fixed a battery box **60** with a hinged top **62** that is provided with an easily operable latching device **68a**, **68b** with the box **60** to be able to shut the box **60** when loaded with a pair of batteries (not shown), and to access the box **60** when necessary to change the batteries. The box **60** is provided with suitable contacts **64** to engage the batteries, and in turn, the contacts **64** are connected via wires **66** to the contacts **76** of a known conventional vibration motor **70** that is mounted on the top surface of the sheet **10**, in the region designated as **40**, with its shaft **72** and eccentric flywheel **74** protruding through an opening in the sheet **10**. A switch **80** is interposed in one of the wires **66** to serve as an ON-OFF switch to enable manual control of the vibration motor **70**. When motor **70** is operational, the vibration motor causes the sheet **10** and all parts molded integrally with or fixed to the sheet **10** to vibrate. By manipulating the novel massager manually, a hand massage can be simulated.

FIGS. **3** and **4** illustrates the improvement of the battery box **60** and the vibration motor **70** being housed in a common protective housing **90** fixed to the upper surface of sheet **10**. Fixing can be effected by any known means. Egress to the interior of housing **90** is not shown, but any known arrangement can be employed for this purpose and such known arrangements will readily be apparent to those of ordinary skill in the art. The protruding shaft **72** and eccentric flywheel **74** are likewise covered by a protective housing **92** fixed to the under surface of sheet **10**. Housings **90** and **92** may be composed of plastic similar to sheet **10** to facilitate fixing. Transversely across the top of housing **90** is fixed a loop or strap **94**. The fixing **98** is at the ends **96** by heat welding, sealing or the use of known fixing elements, such as, screws. The strap is looped to enable a person to slide his/her hand beneath the strap **94**, so the fingers can reach the elongations **12–20** and the ends of the fingers can curl over the bent portions **24–32** to control the device during operation of the vibration motor. By these means, an effective simulation of a hand massage can be accomplished.

FIG. **5** illustrates an organization of the components of the novel massager so that the vibration motor and its parts are all positioned above the sheet **10**. Illustrated is the rear or heel portion **22** of the sheet **10**. The vibration motor **70** is mounted and fixed inside a housing **100** that provides an intermediate platform **102** for supporting motor **70** while

allowing its shaft **72** and fixed eccentric **74** to pass through the platform **102** and still be held above the sheet **10**. Housing **100** is fixed to the upper surface of sheet **10** as shown. Although the vibration motor **70** and its parts has been shown to be positioned above the sheet **10**, it is equally feasible for the motor **70** to lie entirely below sheet **10**, simply by inverting the housing **100** and fixing to the underneath surface of sheet **10**.

Referring now to FIGS. **6** to **10**, a particularly efficacious preferred embodiment is shown. This preferred embodiment consists of a plastic sheet **200**, preferably a polycarbonate that is flexible, that is molded in the fanciful configuration of a hand with fingers (flexible elongated strips **202–210**) splayed and curved downwardly toward their free ends or finger tips (**212–220**). At their ends **212–220**, receptacles or cans **222–230** are integrally molded into which the user inserts his/her finger tips. At the rear or heel **232** of the fanciful hand or sheet **10**, a pair of receptacles or cans **234**, **236** are integrally molded to depend downwardly from the underneath surface of the sheet **10** at the heel **232**. The bottoms of the receptacles **222–230** and **234** and **236** provide a large or substantial area that serves as a contact area with a person undergoing massage. This contact area can be from about 0.4 square cm to about 1 square cm, and may be slightly less or slightly greater.

As already discussed above, the novel massager is provided with a vibration motor, generally designated as **240**, that is mounted or fixed to the sheet **200** to vibrate same, and a battery box **242** to hold batteries serving as the power supply for the vibration motor **240**. As already noted, the vibration motor has an output shaft with an eccentric flywheel fixed to the shaft. In the design shown, the shaft protrudes through sheet **200** and is covered by a cover **244**. A molded plate **246** including cover **244** is fixed to the bottom surface of sheet **200** and provided three lugs **248** each having an opening **250** registering with openings **252** in the sheet **200**. The battery box **242** protrudes slightly below sheet **200** and receptacles or cans **234** and **236** are integrally molded with the box **242**. A housing **260** is used to mount the vibration motor **240** in the sheet **200**. Housing **260** is provided with tabs or lugs **262** with openings **264** registering with the openings **250** and **252**, see FIG. **8**, in particular. The vibration motor **240** is mounted in the housing **260** and supported by a platform **270**. The output shaft **272** of motor **240** protrudes through the platform **270** into the space provided by cover **244**. Eccentric flywheel **274** is fixed to shaft **272**. Fasteners, such as nut and bolts assemblies **276** secure the housing **260** and cover **244** to the sheet **200**.

Referring now to FIG. **9**, an exploded view is illustrated of the assembly of the cover **280** for the top of the vibration motor **240** assembly, the battery box, and the control ON-OFF switch **290**. The control switch **290** is shown in detail in FIG. **10**, and consists of a housing **292** within which a plunger **294** makes or breaks contact **296** for one of the power lines **298** leading from the batteries to the vibration motor **240**. A spring **300** provides a restoring force within the switch to maintain the repose condition as non-contacting. An actuator element consisting of an actuating plug **302** is held in loose engagement in an opening **304** defined in a cover plate **306**. A rod **308** depends from the plug **302** and engages the top of plunger **294**. When the plug **302** is depressed downward, the rod **308** forces the plunger **294** down to make contact and complete the circuit from the batteries to the vibration motor **240**, thereby driving the motor **240** and producing vibrations.

5

It will be appreciated by persons skilled in the art that the present invention is not limited to what has been particularly shown and described herein above. In addition, unless mention was made above to the contrary, it should be noted that all of the accompanying drawings are not to scale. A variety of modifications and variations are possible in light of the above teachings without departing from the scope and spirit of the invention, which is limited only by the following claims.

What is claimed is:

1. A massage device comprising:

(a) an elongated main body composed of a thin flat flexible molded plastic sheet having upper and lower surfaces;

(b) said elongated main body being molded into a fancifully configuration in the outline of a hand having a first end portion of the elongated main body constituting the heel of the hand, and having a second end portion of the elongated main body formed with a plurality of first elongated thin flexible strips,

(c) each said strip at one end being integral with the main body and being cantilevered in a longitudinal direction away from the main body and terminating in a free end, the extreme tip of which defines a fiat substantial contact massage surface extending transversely;

(d) the first elongated strips at their free ends being spaced apart to simulate fingers splayed;

(e) a second elongated strip integral with the main body extending from one side of the main body cantilevered at an angle to simulate a thumb and terminating in a free end, the extreme tip of which defines a fiat substantial contact massage surface extending transversely;

(f) the first and second elongated strips being curved slightly downwardly and at their free ends depending downwardly at an angle so that the extreme tips with the fiat substantial contact massage surfaces face downwardly;

(g) a projection, integrally molded with the elongated main body, projecting downwardly from the lower surface of the elongated main body adjacent the first end of the elongated main body and terminating in a free end having a fiat substantial contact surface facing downwardly; and

6

(h) a battery-operated vibration motor mounted on the elongated main body to induce vibrations in said main body, for transmission to the substantial contact surfaces.

2. A massage device according to claim 1, wherein the thin flexible plastic sheet is composed of polycarbonate.

3. A massage device according to claim 1, wherein the extreme tips with the fiat substantial contact massage surfaces at the free ends of the first and second elongated strips each have an area of at least 0.4 square centimeters.

4. A massage device according to claim 2, wherein the thin flexible plastic sheet is from about 0.2 to about 0.5 centimeters thick.

5. A massage device according to claim 1, wherein the first elongated strips at their free ends are bent or curved downwardly.

6. A massage device according to claim 1, wherein the free ends of the first elongated strips are integrally molded in the form of open top receptacles.

7. A massage device according to claim 1, wherein two laterally spaced projections are integrally molded with the elongated main body projecting downwardly from the lower surface of the elongated main body adjacent the first end of the elongated main body and terminating in free ends having substantial contact surfaces facing downwardly.

8. A massage device according to claim 1, wherein a strap is fastened at its ends transversely across the elongated main body on its upper surface, with the central portion of the strap looped to enable a hand to pass under the strap.

9. A massage device according to claim 1, wherein a battery box is fixed to the elongated main body and electrical connections including an on-off switch interconnect the battery box and the battery-operated vibration motor.

10. A massage device according to claim 9, wherein an enclosure is fixed to the elongated main body that encloses the battery box and the battery-operated vibration motor.

11. A massage device according to claim 10, wherein a strap is fastened at its ends transversely across the enclosure, with the central portion of the strap looped to enable a hand to pass under the strap.

* * * * *